

~~DEVICE FOR AND PROCEDURE FOR METHOD OF DISCHARGING DRAINING A~~  
~~COOKING LIQUID FROM A FOOD PRODUCT-COOKING APPARATUS COOKER~~

CROSS REFERENCE TO RELATED APPLICATIONS

This application is the US national phase of PCT  
5 application PCT/EP2003/011026, filed 6 October 2003, published 29  
April 2004 as WO2004/034861, and claiming the priority of Italian  
patent application MI2002A002212 itself filed 18 October 2002,  
whose entire disclosures are herewith incorporated by reference.

FIELD OF THE INVENTION

10 The present invention refers to a device and procedure  
for method of discharging draining a cooking liquid from a food  
~~product-cooking apparatus~~ cooker. In particular, hereafter  
reference shall be made to cooking apparatuses like fryers. It  
is, however, clear that the same teachings can advantageously be  
15 used on similar apparatuses like electrical pasta cooking  
~~apparatuses~~ cookers, rice cookers, etc.

BACKGROUND OF THE INVENTION

For some time fryers have been present on the market  
equipped with an oil-containing bowl vessel and a basket which  
20 can be inserted in the bowl vessel in which the food products to  
be fried are to be housed held.

As is known, such fryers after a certain number of  
cooking cycles require the replacement of oil; however, this  
operation is very laborious since the entire fryer must be tipped  
25 up to pour out the oil from the bowl vessel.

It is clear that such an operation can cause numerous drawbacks, among ~~[[st]]~~ which we mention the danger of burning for the user and the staining of the resistance heating coils or other electrical parts of the fryer.

5 To avoid these drawbacks devices have been developed which allow the oil to be tipped out without the fryer needing to be ~~tipped-up~~ raised or tilted. Such devices comprise bendable tubes made from flexible rubber equipped with an end cap. In practice, in a rest position these tubes are bent and housed in  
10 suitable seats formed in the body of the fryer, whereas in work position the tubes are ~~removed from the bending configuration~~ unbent and the cap is taken ~~[[away]]~~ off so as to ~~discharge~~ drain the oil, all while keeping the fryer in a flat position.

However, such devices have also presented numerous  
15 drawbacks, including the fact that the flexible rubber tubes do not ensure sufficient stability and safety and it is possible that, during ~~the discharge~~ draining of the oil, due to oscillations or vibrations, prompted for example by their own elasticity or by knocks or displacements of the fryer, the oil  
20 falls or splashes out ~~[[from]]~~ of the container ~~[[where]]~~ in which it is being collected.

Moreover, the rubber element, due to the heat and the repeated bending, tends to become damaged through time. ~~[[;]]~~  
The harmful effect of the ~~discharge of~~ draining oil, which can  
25 seep through the slits of the tube, is clear.

Moreover, with conventional fryers it is usually very difficult to ~~adjust the amount of~~ control the rate at which the cooking liquid ~~to be discharged~~ is drained and, moreover, sometimes the cap is removed after the tube has been removed and rectified, usually causing inconvenient drips.

#### OBJECTS OF THE INVENTION

The ~~technical task proposed~~ object of the present invention is, therefore, that of ~~realising~~ providing a device and ~~procedure for method of discharging~~ draining a cooking liquid from a food product ~~cooking apparatus which~~ cooker that allows the aforementioned technical drawbacks of the prior art to be eliminated.

~~Another object in this technical task a purpose~~ of the invention is ~~that of realising~~ to provide a discharge device and procedure which are very stable and safe, in particular during ~~[[the]]~~ discharge of the cooking liquid.

~~Yet another purpose~~ object of the invention is ~~that of~~ realising to provide a ~~discharging~~ draining device which is not subject to damage, due to heat and repeated bending, through time.

A further purpose of the invention is ~~that of realising~~ to provide a discharge device and procedure ~~[[which]]~~ that allow the discharge of liquid to be ~~partialised and, therefore, to be~~ controlled. ~~[[;]]~~ In this way it is possible to control the liquid which ~~comes out~~ is draining from the apparatus for example to take it to a certain level in the collection container and/or

in the ~~bowl~~ vessel of the apparatus, or else to fill the collection container without making it overflow.

The last but not least purpose object of the invention is ~~that of realising to provide~~ a discharging draining device and procedure ~~[[which]]~~ that allow the amount of cooking liquid to be discharged to be adjusted and, moreover, ~~[[which]]~~ that allow inconvenient drips to be prevented. Advantageously, ~~the partialisation is accompanied by the variation of the inclination of the tube.~~

#### SUMMARY OF THE INVENTION

These objects technical task, as well as these and other purposes, according to the present invention, are accomplished attained by realising a device for discharging draining a cooking liquid from a food ~~product-cooking-apparatus~~ cooker, characterized in that it comprises a valve means for intercepting ~~said the~~ cooking liquid and an outside ~~conveyance~~ means conduit of ~~said the~~ apparatus.

The present finding invention also refers to a ~~procedure for method of discharging draining~~ a cooking liquid from a food ~~product-cooking-apparatus~~ cooker, characterized in that it consists of rotating a substantially rigid tube, connected to a valve means for intercepting liquid, from an upward orientation to a downward orientation, simultaneously and progressively taking ~~said intercepting means~~ valve from a closed position to an open position, so as to allow the discharge of

said the liquid through said the intercepting means and said the tube.

#### BRIEF DESCRIPTION OF THE DRAWING

Further characteristics and advantages of the invention shall become clearer from the description of a preferred but not exclusive embodiment of the device and ~~procedure for~~ method of discharging draining a cooking liquid from a food ~~product-cooking apparatus~~ cooker according to the ~~finding~~ invention, illustrated for indicating and not limiting purposes in the attached drawings, in which:

—figure FIG. 1 shows a perspective view of a cooking apparatus like a fryer equipped with a discharging draining device according to the present ~~finding~~ invention;

—figure FIG. 2 shows a cross section of the discharging draining device of figure FIG. 1 in closed configuration; and

—figure FIG. 3 shows a cross section of the discharging draining device of figure FIG. 1 in open configuration.

#### SPECIFIC DESCRIPTION

With reference to the quoted figures, an apparatus for cooking food products is shown, wholly indicated with reference numeral 1. The apparatus 1 ~~consists of~~ is a fryer but, in other examples, can be an electric pasta ~~cooking device~~ or ~~rice~~ cooker. The apparatus 1 has, connected to a lower portion thereof, a device 2 for discharging draining a cooking liquid for

food products. The discharging draining device comprises a valve  
means 3 for intercepting the liquid and an outside conveyance  
means conduit 4 ~~of the apparatus~~. The intercepting valve means 3  
are placed between the conveyance means conduit 4 and a bowl  
5 vessel 5 of the device apparatus 1 containing the cooking liquid.

In a preferred embodiment the intercepting valve means  
can be ~~partialised~~ and comprise a body housing 6 connected to the  
bowl vessel 5 and defining a seat in which a hollow shutter valve  
body 7 is connected, mobile between an open position (shown in  
10 figure FIG. 3) and a closed position (shown in figure FIG. 2).  
Advantageously, the conveyance means conduit 4 comprises a  
substantially rigid tube ~~which is~~ connected to the shutter valve  
body 7, a recess passage 8 of the shutter valve body being  
aligned ~~[[to]]~~ with a recess passage 9 of the tube 4.

15 ~~Suitably,~~ In the open position the tube 4 is  
substantially vertical or tilted upward, and in the closed  
position the tube 4 is tilted downward.

As shown in the attached figures, the body housing 6 is  
~~realised in~~ comprised of two portions parts 6a, 6b connected  
20 together with the interposition of a gasket 10, ~~[[with]]~~ the  
portion part 6b ~~which has~~ having a groove 11 in which the tube 4  
is slidably housed and ~~[[which]]~~ that limits ~~[[the]]~~ displacement  
through between two tilted angled end walls 20.

25 Moreover, the discharging draining device 2 comprises a  
~~tubular connection element~~ connecting tube 12 placed extending  
between the bowl vessel 5 and the body housing 6 of the valve

means, ~~appropriately, the connection element~~ The tube 12 is tilted downward away from the bowl 5.

The operation of the device for discharging draining a cooking liquid from a food ~~product cooking apparatus~~ cooker according to the invention is clear from that which has been described and illustrated and, in particular, is substantially the following: [[.]]

When one wants to discharge drain the cooking liquid [[like]], for example [[,]] the oil of a fryer from the bowl vessel 5, the tube 4 is lowered lowers as indicated by the arrow F1.

The lowering of the tube 4 ~~causes the rotation of~~ rotates the shutter valve body 7 in its seat and, therefore, [[the]] progressively aligns ~~alignment of~~ its recess passage 8 with the recess passage of the tube 12, allowing the oil to [[go]] flow out.

Advantageously, if the tube is only partially rotated, without taking moving the passage 8 of the shutter valve body into perfect alignment with the recess passage of the tube 12, the flow of oil discharged can be partialised limited.

To take the tube back into its rest position (FIG. 2) it is sufficient to rotate it as indicated by the arrow F2 up to vertical position.

Preferably, the tilted angled walls 20 of the groove 11 also constitute [[the]] end stops for [[the]] rotation of the tube 4 and define the closed position of FIG. 2 [[(]] with the

tube 4 vertical [{}]] and the open position of FIG. 3 [{}]] with the tube 4 tilted downward [{}]].

The present finding invention also refers to a ~~procedure for method of discharging draining~~ a cooking liquid such as oil from a food ~~product-cooking-apparatus~~ cooker such as a fryer.

The procedure consists of rotating the substantially rigid tube 4 [,,] connected to the valve means 3 for intercepting that normally blocks outward flow of the liquid, from an upward orientation to a downward orientation, simultaneously and progressively taking moving the intercepting means valve 3 from a closed position to an open position, so as to allow the discharge of the liquid through the intercepting means 3 and the tube 4.

In practice, it has been noted how the device and ~~procedure for method of discharging draining~~ a cooking liquid from a food ~~product-cooking-apparatus~~ cooker according to the invention [are] is particularly advantageous and ~~because they are~~ particularly safe and reliable.

The device and ~~procedure for method of discharging draining~~ a cooking liquid from a food ~~product-cooking-apparatus~~ cooker thus conceived are susceptible to numerous modifications and variants, all covered by the inventive concept; moreover, all of the details can be replaced with technically equivalent elements. In practice, the materials used, as well as the sizes, can be whatever according to the requirements and the state of the art.